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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,219	12/22/2000	Diego Carmello	CARP-0087	1142

7590 05/18/2006

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EXAMINER
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ELVE, MARIA ALEXANDRA

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/746,219

Applicant(s)

CARMELLO ET AL.

Examiner

M. Alexandra Elve

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1, 12-14, 16 and 26-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13, 14 and 26-36 is/are allowed.
- 6) ☒ Claim(s) 1, 12 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hershkowitz et al. (USPN 5,883,138) in view of Penick (USPN 4,705,621).

Hershkowitz et al. discloses a metallic monolith catalyst in which the fluid flow is parallel to the catalyst axis. The catalytically active metal may be in a variety of forms, one being a monolith. Figure 3 demonstrates the irregular shape of the cell perimeter.

(abstract, figures, col. 3, lines 24-27, col. 4, lines 65-67, col. 5, lines 20-35, col. 7, lines 40-67, col. 8, lines 59-61, col. 9, col. 10, lines 12-58, col. 11, lines 14-26, col. 12, lines 1-3)

Hershkowitz et al. does not teach a volume fraction.

Penick discloses a catalytic reactor system have a porous body of contact solids, such as a fixed catalyst bed. The void volume in a reaction zone is a function of catalyst configuration and loading technique. A catalyst bed having a void volume fraction greater than 0.25, allows for fluid flow. Void fractions from 0.3 to 0.9 can be achieved using loosely packed components. (abstract, col. 4, lines 16-40)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a volume fraction as taught by Penick in the Hershkowitz et al. system because it yields optimal reaction conditions with respect to fluid flow.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hershkowitz et al. (USPN 5,883,138) in view of Kudo et al. (USPN 4,305,910).

Hershkowitz et al. discloses a metallic monolith catalyst in which the fluid flow is parallel to the catalyst axis. The catalytically active metal may be in a variety of forms, one being a monolith. Figure 3 demonstrates the irregular shape of the cell perimeter.

(abstract, figures, col. 3, lines 24-27, col. 4, lines 65-67, col. 5, lines 20-35, col. 7, lines 40-67, col. 8, lines 59-61, col. 9, col. 10, lines 12-58, col. 11, lines 14-26, col. 12, lines 1-3)

Hershkowitz et al. does not teach the length and dimensions.

Kudo et al. discloses a catalytic reaction system having tubular catalyst unit with lengths ranging from 5 to 3000 mm, that is, 0.5 to 300 cm (abstract, col. 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to determine the system length, as taught by Kudo et al. in the Hershkowitz et al. system because it is merely a characterization parameter which is used to determine optimal reaction.

***Allowable Subject Matter***

Claims 13-14, 26- 36 are allowed.

***Response to Arguments***

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 6:30-3:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

5/15/06

  
M. ALEXANDRA ELVE  
PRIMARY EXAMINER